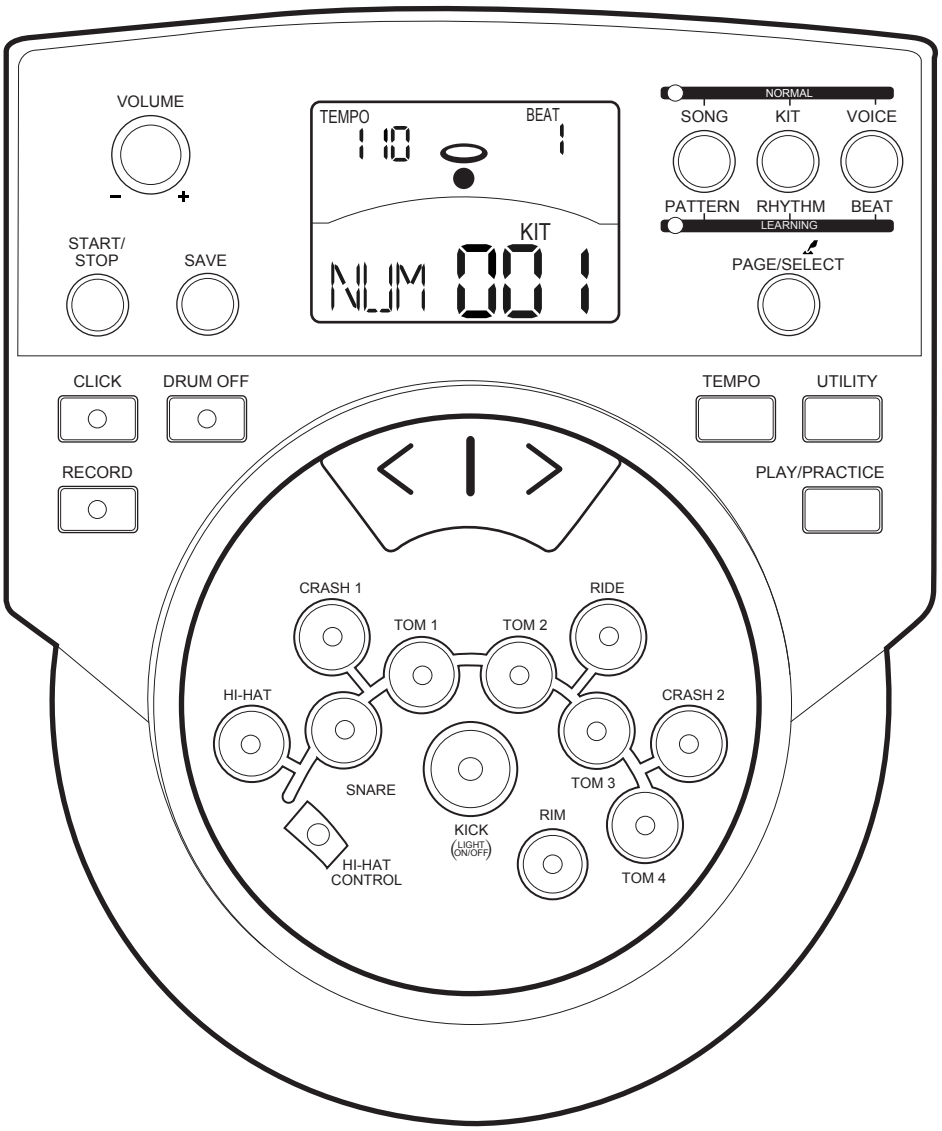
Digital Drum

Owner's Manual



GENERAL MIDI

THE FCC REGULATION WARNING (for USA)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the user's authority to operate this equipment.

CAUTION

The normal function of the product may be disturbed by Strong Electro Magnetic Interference. If so, simply reset the product to resume normal operation by following the owner's manual. In case the function could not resume, please use the product in other location.

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

Please keep this manual in a safe place for future reference.

Power Supply
Please connect the designated AC adaptor to an AC outlet of the correct voltage.

Do not connect it to an AC outlet of voltage other than that for which your instrument is intended.

Unplug the AC power adaptor when not using the instrument, or during electrical storms.

Connections
Before connecting the instrument to other devices, turn off the power to all units. This will help prevent malfunction and / or damage to other devices.

Location
Do not expose the instrument to the following conditions to avoid deformation, discoloration, or more serious damage:

- Direct sunlight
- Extreme temperature or humidity
- Excessive dusty or dirty location
- Strong vibrations or shocks
- Close to magnetic fields

Interference with other electrical devices
Radios and televisions placed nearby may experience reception interference. Operate this unit at a suitable distance from radios and televisions.

Cleaning
Clean only with a soft, dry cloth.
Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.

Handling
Do not apply excessive force to the switches or controls.

Do not let paper, metallic, or other objects into the instrument. If this happens, unplug the AC adaptor from the wall outlet. Then have the instrument inspected by qualified service personnel.

Disconnect all cables before moving the instrument.

Contents

Panel & Display Description
Front Panel....4
Rear & Side Panel....5
Display....5

Quick Start

Setup
Connecting Pads and Pedals....6

Connections
Connecting an Audio Equipment....7
Connecting a set of Headphones....7
Connecting an MP3/CD Player....7
Connecting a Computer....7
Connecting a Midi Keyboard....7
Power Supply & Switch....7

Performing
Selecting a Drum Kit....8
Playing the Pads....8
Adjusting the Sensitivity of a Pad....9
Using the Metronome/Click Feature....9
Adjusting the Tempo....9

Editing and Saving a Drum Kit
Adjusting the Volume of a Drum Kit....10
Switching Reverb On/Off and Setting EQ....10
Selecting the Drum Instrument of the Pad....10
Adjusting the Volume, Pan and Pitch of the Pad....10
Setting the Pads to Play Songs....10
Saving the Edited Kit....10

Playing Along with Songs
Selecting and Playing Back a Song....11
Adjusting the Volume of the Accompaniment and Drum....11
Muting the Drums in Songs....11
Using the Pads to Play Songs....11

Recording Your Performance
Recording Your Performance Quickly....12
Playing Back Your Recorded Performance....12
Making the Settings for Recording....12

Practicing with Patterns
Selecting a Pattern and Practicing with it....13
Scoring Your Practice....13
Playing Back Your Recorded Practice....13

Advanced Use

Creating Your Own Drum Kit
About the Drum Kits....14
Selecting a Drum Kit....14
Overall Drum Kit Setting....14
Selecting the Pad to Edit....14
About the Drum Instruments....15
Selecting Instruments....15
Drum Instrument Setting....15
Settings for Other Functions....15
Saving to a User Drum Kit....15

Making the Settings for Pads
About Settings of Pads....16
Adjusting the Pad Sensitivity....16
Setting the Pad Threshold....16
Eliminating Crosstalk between Pads....16
Selecting the Pad Curve....17
Setting Rim Sensitivity on Pads....17
Adjusting the Hi-Hat Pedal Splash Sensitivity....17
Saving Settings of Pads....17

Setting the Metronome
About Click....18
Switching the Click On/Off....18
Adjusting the Click Tempo....18
Setting the Time Signature....18
Setting the Interval....18
Adjusting the Click Volume....18
Selecting the Click Sound....18

Playing Back Songs
About Songs....19
Selecting a Song....19
Playing Back a Song....19
Adjusting the Accompaniment Volume....19
Adjusting the Drum Volume....19
Muting the Drums in Songs....19

Recording a Song
About Recording....20
Recording Pad Performances....20
Recording Performances Accompanied with a Song....20
Playing Back Your Recorded Performance....20
Recording Standby....20

Practicing in Learning Mode
About Learning Mode....21
Practicing with Beats....21
Practicing with Rhythms....21
Practicing with Patterns....22
Recording and Scoring Your Practice....22
Playing Back Your Recorded Practice....22

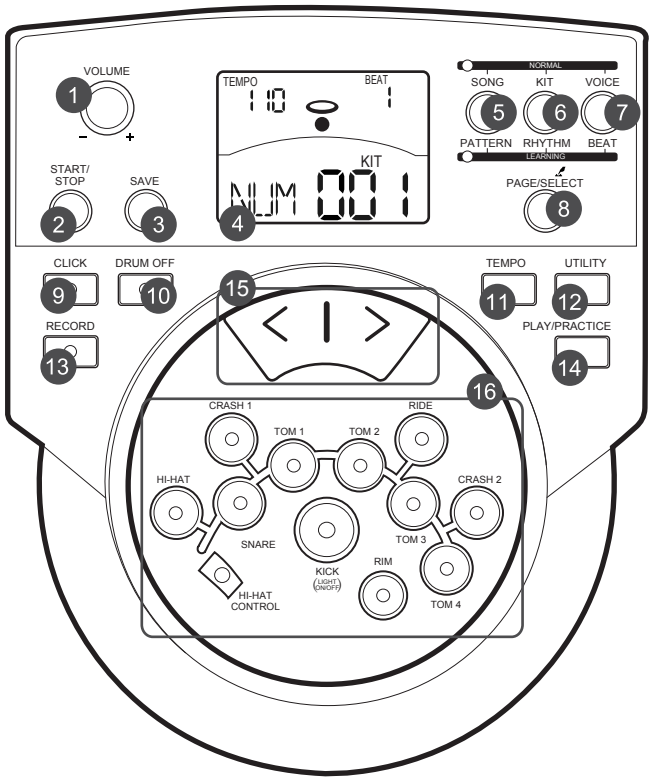
Making the Setting for MIDI
About MIDI....23
Making the MIDI Settings....23
Connecting with an External Sound Device....24
Using the digital drum as a Sound Module....24

Appendices

Prompt Messages....25
Troubleshooting....25
Specifications....26
Kit/Voice/Song/Pattern/Parameter List....26
MIDI Implementation Chart....36

Panel Description

Front Panel



1 VOLUME Knob
Adjust the volume of phone and line output.

2 START/STOP Button
Start or stop playing.

3 SAVE Button
This button is used to save the current kit settings in a user kit and save the trigger settings under the Utility menu pages.

4 LCD Display
Please refer to the LCD Display section.

5 SONG/PATTERN Button
Enter the Song menu in NORMAL mode or enter the Pattern Practice menu in LEARNING mode.

6 KIT/RHYTHM Button
Enter the Kit menu in NORMAL mode or enter the Rhythm Practice menu in LEARNING mode.

7 VOICE/BEAT Button
Enter the Voice menu in NORMAL mode or enter the Beat Practice menu in LEARNING mode.

8 PAGE/SELECT Button
Scroll through the menu pages. Press and hold it for 1 second to switch modes between NORMAL and LEARNING.

9 CLICK Button
Turn the metronome on or off and enter the Click menu in NORMAL mode.

10 DRUM OFF Button
Mute the drum part of the pattern.

11 TEMPO Button
Adjust the current tempo.

12 UTILITY Button
Enter the Utility menu in NORMAL mode.

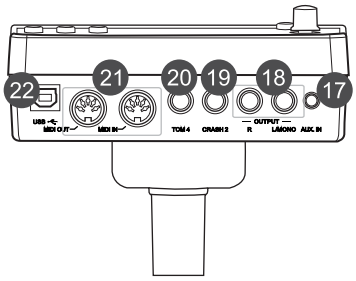
13 RECORD Button
Enter the Record menu in NORMAL mode.

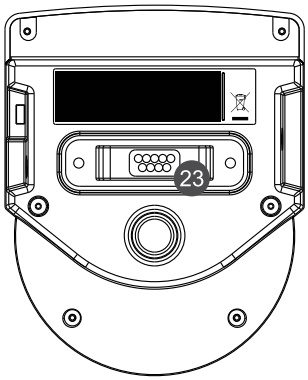
14 PRACTICE/PLAY Button
Play back your recording in NORMAL mode.
Start practicing following sample practice patterns in LEARNING mode.
Press and hold it for 1 second to play back your practice in LEARNING mode.

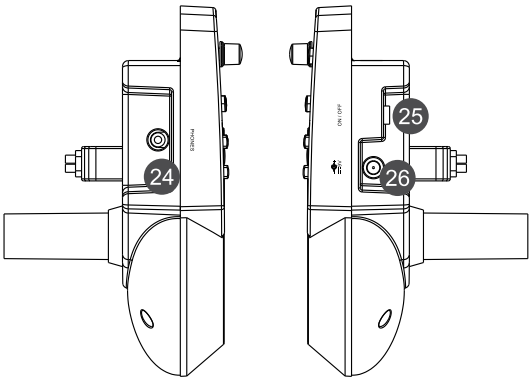
15 <Button and> Button
Press the [>] button increases and press [<] button decreases the current parameter.

16 Pad Select Buttons
These buttons play the pad voices of the current kit. In Voice menu and Utility menu, they select the pad to be edited.

Rear Panel & Side Panel







17 **AUX IN Jack**
This stereo input jack is for an external sound source, such as an MP3 or CD player.

18 **LINE OUTPUT Jacks**
Stereo output connection to an audio system or drum amplifier.

19 **CRASH 2 Jack**
Input connection for Crash 2 (single-zone).

20 **TOM 4 Jack**
Input connection for Tom 4 (dual-zone).

21 **MIDI Connectors (IN, OUT)**
These ports allow communication with other products equipped with a MIDI interface.

22 **USB Connector**
This port is used to connect to a computer (MIDI In/Out via USB).

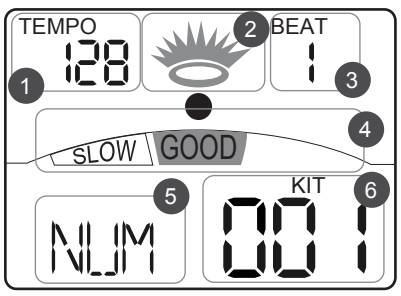
23 **PAD Connectors**
Input connections for Kick, Snare, Tom, Cymbal pads and Hi-Hat control pedal.

24 **PHONES Jack**
This stereo jack is used to connect headphones to the unit.

25 **POWER Switch**
This switch turns the power on and off.

26 **DC IN Jack**
Connect the included DC 9V power adaptor.

Display



1 **Tempo/Measure**

2 **Hitting Indicator**

3 **Beat Count**

4 **Indicators for Learning**

5 **Indicators for Menus (Such as UTILITY, REC, etc.)**

6 **Current Mode and Parameter Display**

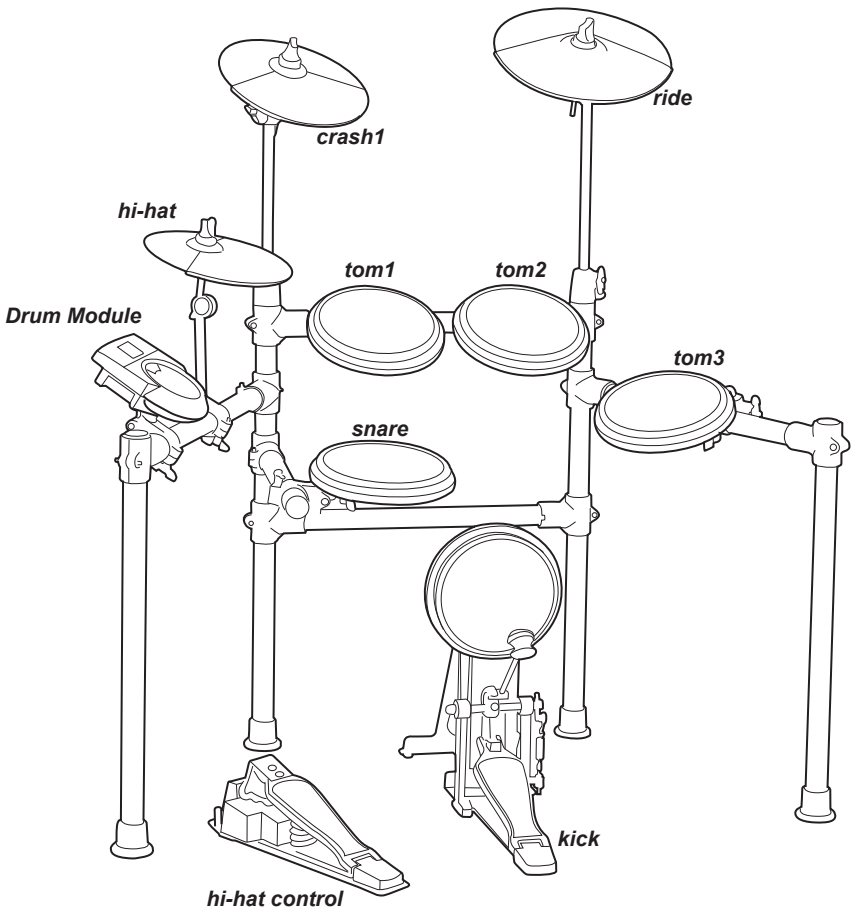
Setup

Caution!

To prevent electric shock and damage to the device, make sure the power is switched OFF on the drum and all related device before making any connection.

Connecting Pads and Pedals

Standard: KICK, SNARE, TOM1-3, CRASH1, RIDE, HIHAT, HIHAT CONTROL PEDAL
Extended: CRASH2, TOM4
Using the provided cables, connect with kick, snare, tom1~tom3, ride, crash, hi-hat, hi-hat control triggers. Snare, tom are stereo input, support double triggering (increase edge triggering); cymbal (includes ride and crash) kick, hi-hat are mono input, which can't response edge triggering. Hi-hat control pedal is stereo input.



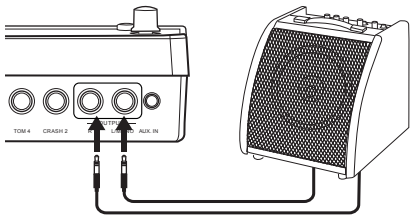
Note:
For details on assembling the drum stand, attaching the digital drum and connecting pads, refer to the Installation manual.

Connecting an Audio Equipment

When using an amplifier, connect the Output L/MONO and R jacks on the rear panel to the input of the amplifier.

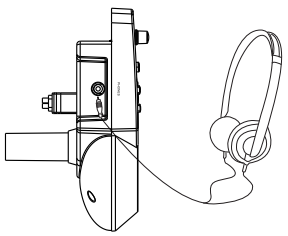
Note:

For mono playback, use the L/MONO jack.
For stereo playback, connect both L/MONO and R jacks.
The line output volume is controlled by the VOLUME knob.



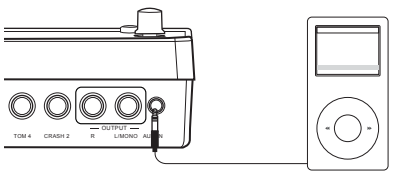
Connecting a set of Headphones

An optional set of stereo headphones can be connected to the PHONES jack located on the side of the drum module.
The headphones output volume is controlled VOLUME knob, too.



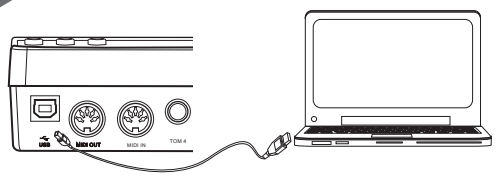
Connecting an MP3/CD Player

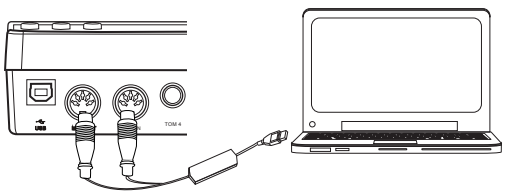
Connect the audio output of an MP3/CD player or other audio source to the stereo AUX IN jack on the rear panel.
The input signal is mixed with the drum signal, allowing you to play along.



Connecting a Computer

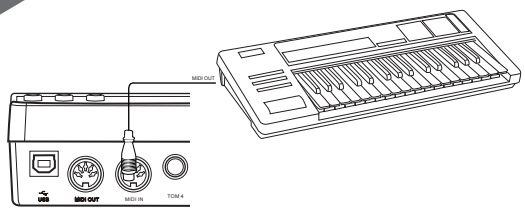
- **Via the USB Connector**
  This receives and transmits MIDI messages.
- **Via the MIDI Connectors**
  MIDI IN Connector
  This receives MIDI messages transmitted from an external MIDI device or a computer.
  MIDI OUT Connector
  Pad performance data is transmitted from this connector to connected computer or MIDI device.





Connecting a Midi Keyboard

If you're using an external MIDI keyboard or pads to control the digital drum, make connections as shown. Here, it is used as a sound module

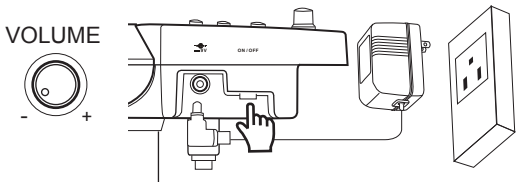


Power Supply & Switch

Make sure the power is switched OFF. Connect the power adaptor to the DC IN jack on the side panel. After confirming that all connections have been completed, rotate the volume knob to the left (minimum volume level) before switching the power on. Set the power switch to the "ON" position. The KIT indicator will light up and the display will show kit number 001.

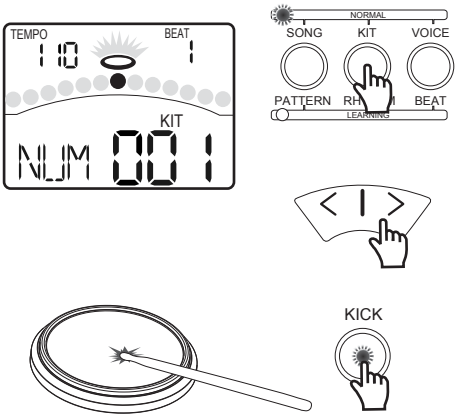
Note:

Make sure the power is switched OFF when connecting the drum module with external devices.



Selecting a Drum Kit

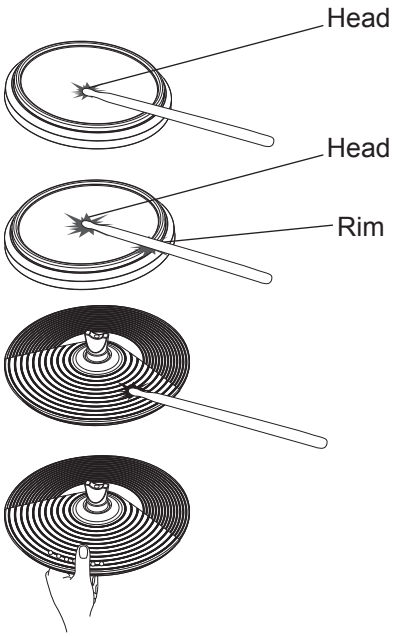
After powering up, the digital drum will be in KIT menu (KIT indicator ON). The display should look like this:



1. Use the [<] and [>] buttons to select the active kit.
2. Pressing the Pad Select buttons allows you to preview the current kit (fixed velocity).
3. Hit the pads to play the current kit.

Playing the Pads

Similar to an acoustic drum kit, the digital drum responds differently to various playing techniques and dynamics. All the pads are velocity sensitive. And some voices change timbre depending on the striking force.



Drum Pad Head or Rim shot
The digital drum pad detects head and rim shots (rim shots trigger the rim voice).

Cymbal Bow shot and Choke
The digital drum cymbals detect bow shot.

Only the Crash cymbals have cymbal choke.
Choking the Crash's edge with the hand immediately after hitting the crash mutes the crash sound.

Hi-Hat
The Hi-Hat sound varies depending on the position of the Hi-Hat pedal:

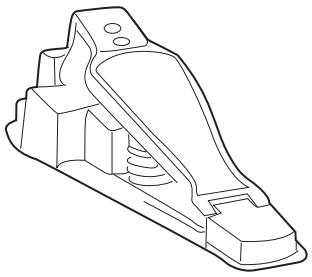
Open Hi-Hat: Strike the Hi-Hat pad without pressing the pedal.

Half-Open Hi-Hat: Strike the Hi-Hat pad with the pedal pressed halfway down.

Closed Hi-Hat: Strike the Hi-Hat pad with the pedal pressed completely down.

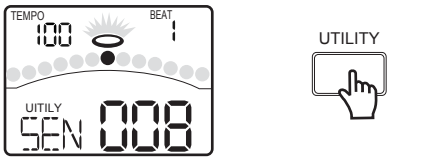
Pedal Close: Press the pedal completely down without striking the pad.

Splash: Press the pedal completely down and release it immediately.



Adjusting the Sensitivity of a Pad

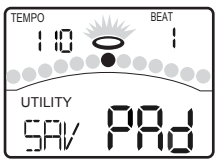
You may wish to adjust the sensitivity of the pads according to your playing style and desired dynamic range.



1. Press the [UTILITY] button
The UTILITY indicator appears.

2. Strike a pad or press a pad select button to select the one whose sensitivity is to be adjusted. The PAD indicator shows the current selected pad.

3. Press the [<] or [>] button to adjust the sensitivity.

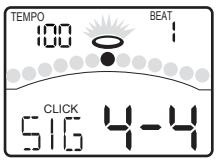


4. Press the [SAVE] button to save the current setting.

For details on pad adjustments, refer to ***Advanced Use***.

Using the Metronome/Click Feature

You can switch the click sound on and off by pressing [CLICK] button. When the click plays at the current Time Signature and Tempo (displayed in the top left corner of the LCD), the beat indicators will swing accordingly. You can set the time signature and interval, adjust the click volume and select the click sound in the CLICK menu.



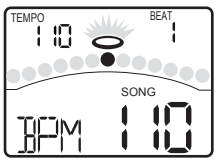
1. Press the [CLICK] button.
Start the metronome with click sound.

2. Press the [PAGE] button to select the click menu pages and press the [<] or [>] button to adjust the parameters.

3. Press the [CLICK] button again.
Stop the metronome and exit the click menu.

Adjusting the Tempo

You can adjust the tempo of the Metronome, the current song, and the current learning pattern. The current tempo always displays in the top left corner of the LCD.



1. Press the [TEMPO] button.

2. Press the [<] or [>] button.
Adjust the current tempo.

3. Press both [<] and [>] buttons at the same time, reset the current tempo to its default value.

Note:
If there's no operation, it will return to the previous menu page automatically after 3 seconds.

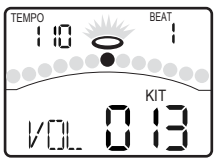
Editing and Saving a Drum Kit

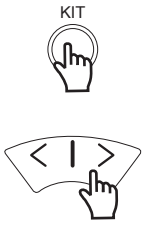
In KIT menu, you can modify the parameters as you like and save to the selected user kit.

Adjusting the Volume of a Drum Kit

1. Press the [KIT] or [PAGE] button.
Select the Kit Volume page.

2. Press the [<] or [>] button.
Adjust the kit volume.

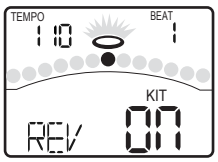


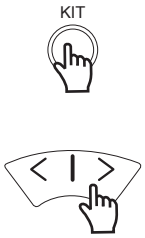


Switching Reverb On/Off and Setting EQ

1. Press the [KIT] or [PAGE] button.
Select the Global Reverb page and EQ pages.

2. Press the [<] or [>] button.
Switch Reverb ON or OFF.
Set the gain of three-band EQ (high, middle, low)

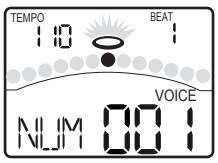


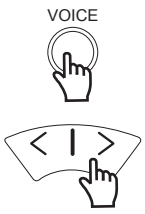


Selecting the Drum Instrument of the Pad

1. Press the [VOICE] button.
Select the Pad Voice page.

2. Press the [<] or [>] button.
Select the drum instrument of the selected pad.
Please refer to ***Drum Instrument List***.

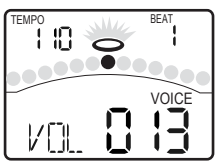


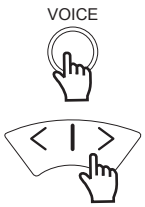


Adjusting the Volume, Pan and Pitch of the Pad

1. Press the [VOICE] or [PAGE] button.
Select the Pad Volume, Pad Pan, and Pad Pitch pages.

2. Press the [<] or [>] button.
Adjust the corresponding parameter.

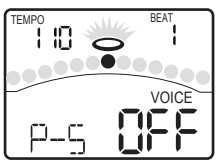


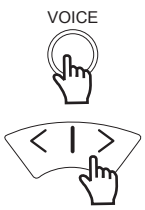


Setting the Pads to Play Songs

1. Press the [VOICE] or [PAGE] button.
Select the Pad Song and Song Number pages.

2. Press the [<] or [>] button.
Switch the Pad Song function ON or OFF. Select the Song that begins playing when the following pad is struck.



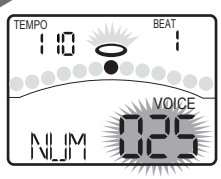


Saving the Edited Kit

1. Press the [SAVE] button.
The number of user kit will be flashed.

2. Press the [<] or [>] button.
Select a user kit to save your settings. (No. 25-40)

3. Press the [SAVE] button again.
Save the setting to the selected user kit.



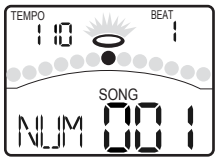
HINT
If the edited kit isn't saved before selecting another kit, powering down the digital drum, the changes will be lost.

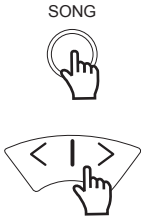
Selecting and Playing Back a Song

1. Press the [SONG] button.
Switch to the SONG menu.

2. Press the [<] or [>] button.
Select the active song. The digital drum has many kinds of songs. Please refer to Song list.

3. Press the [START/STOP] button.
Start or stop playing back this selected song. When playing back this song, the PAD indicator will display which pads are being played by drum track.



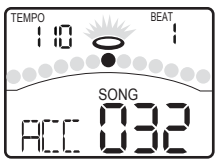


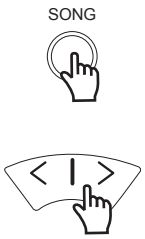
Adjusting the Volume of the Accompaniment and Drum

In SONG menu, you can adjust the volume of drum or accompaniment track.

1. Press the [SONG] or [PAGE] button.
Select the ACC Volume or Drum Volume page.

2. Press the [<] or [>] button.
Adjust the corresponding volume.





Muting the Drums in Songs

If you want to mute the drum track of the song, please press the [DRUM OFF] button. The [DRUM OFF] led will turn on.

Using the Pads to Play Songs

This function is available only with electric drum. When you struck the pads that have been set Pad Song function, they will start the performance of the songs. If you don't know how to set this function, please return to previous page and review the part ***"Setting the Pads to Play Songs".***

For Example:

Kick: You can play the bass-line (Tap group, refer to ***Song List***) note by note with you kick drum.

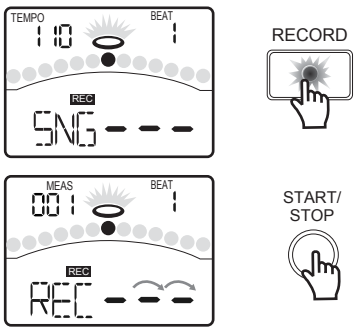
Crash: The chords (Hit group, refer to ***Song List***) progress when you strike the pad.

HINT
The sounds in the Tap song are played back one by one when you pressing the [START/STOP] button or hitting the "pad song" pad.

Recording Your Performance

In RECORD menu, you can record pad performances and the song as accompaniment.

Recording Your Performance Quickly

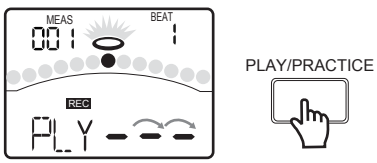


1. Press the [RECORD] button.
The [RECORD] led will flash. The Metronome will be turned on automatically.
The display will show:

2. Press the [START/STOP] button or strike the pad.
Recording will start.
The [RECORD] led will turn on.

3. Press the [START/STOP] button again, or press the [RECORD] button.
Stop recording, the [RECORD] led will turn off.
Your performance has been recorded.

Playing Back Your Recorded Performance



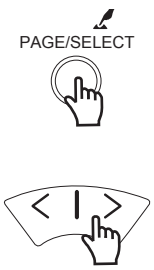
1. Press the [PLAY] button.
Play back your recording.
The display will show:

2. Press the [PLAY] button again.
Stop playing back your performance.

If you are not satisfied with your recording, please press the [RECORD] button to restart the recording progress.

Making the Settings for Recording

You can make the settings for recording on Record Standby.



1. Press the [PAGE] button.
Select the Record Setting pages.

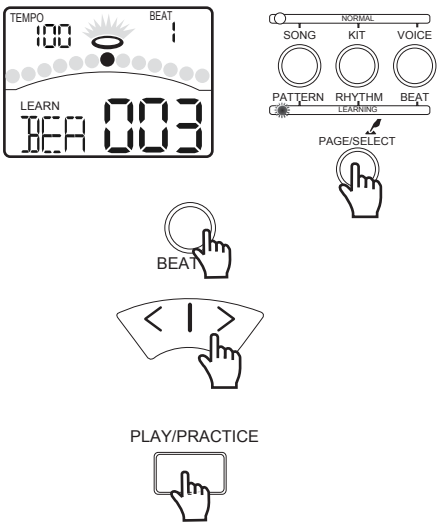
2. Press the [<] or [>] button.
Adjust the parameters about recording.
For details on record setting, refer to ***Advanced Use.***

There are three types of patterns in LEARNING mode.

Beat: Snare Practice
Rhythm: Drums Practice
Pattern: Drums Practice with accompaniment

Selecting a Pattern and Practicing with it

When you are in NORMAL mode, please press and hold the [PAGE/SELECT] button for 1 second. The led of LEARNING mode will turn on. The display will show:



1. Press the [BEAT] button.
Select the Beat Choosing page.

2. Press the [<] or [>] button.
Select the beat which you want to practice.

3. Press the [PRACTICE] button.
Start or stop playing the pattern with your practice. The PAD indicators will display which pads are being played by drum track.

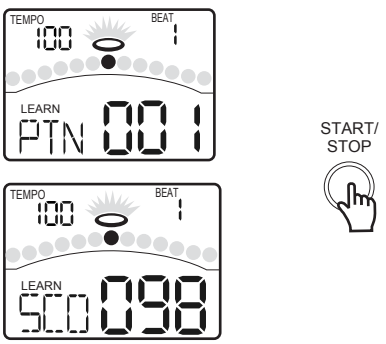
If you want to select the Rhythm or Pattern, please follow the steps described above. Drum Lessons Score can be downloaded from internet(consult your dealer). We recommend you to follow it.

Scoring Your Practice

If you want to check your progress, please press the [START/STOP] button. The display will show:

A measure count-in will be inserted before playing back the pattern so that you can practice in good time. Your practice will be recorded automatically. When finished playing back the pattern, the digital drum will score your practice automatically. The display will show the score.

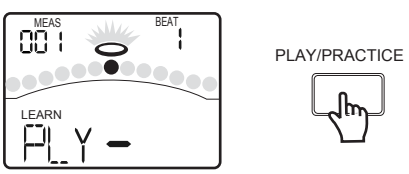
If you are unsatisfied with your score, please press the [START/STOP] button and restart examination.



Playing Back Your Recorded Practice

1. Press and hold the [PLAY/PRACTICE] button for 2 seconds.
The display will show:
You will listen to your recorded practice.

2. Press the [PLAY/PRACTICE] button again.
Stop playing back the recorded practice.



Creating Your Own Drum Kit

About the Drum Kits

In KIT menu, you can select drum kits to play from the pads, and you can edit voices and their associated parameters, such as Pitch, Reverb Level, Volume, Pan, MIDI Note, etc.
There are 40 kits in the digital drum:

- 24 preset kits (Kits 01-24)
- 16 user kits (Kits 25-40)

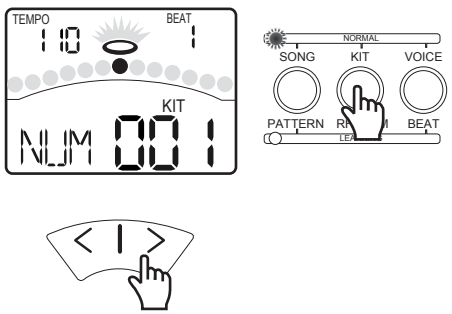
In addition, there are 11 General MIDI preset kits for MIDI/USB applications, and for MIDI file playback. Please refer to ***GM Drum Kit List***. Each drum kit contains settings for up to 16 voices, assigned to the 10 pad inputs and 1 pedal controller:

Pad Settings		
Kick	Head1	
Snare	Head2	Rim2
Tom1	Head3	Rim3
Tom2	Head4	Rim4
Tom3	Head5	Rim5
Tom4	Head6	Rim6
Crash1	Head7	
Crash2	Head8	
Ride	Head9	
Hihat	Head10	
Pedal		

Selecting a Drum Kit

If the digital drum is not yet in KIT menu, press the [KIT] button to enter it. The KIT indicator will light up, and the LCD will display the current kit number.

Press the [<] or [>] buttons to select a kit. When holding down [>], values increase rapidly. When holding down [<], values decrease rapidly.



Overall Drum Kit Setting

In KIT menu, you can set the overall kit parameters.

1. Press the [PAGE] or [KIT] button, select Kit volume page. The parameter adjusts the overall kit volume(0-32).

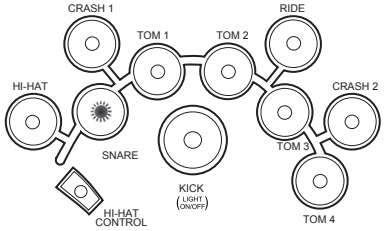
2. Press the [PAGE] or [KIT] button, select Reverb Switch page. The parameter toggles the global reverb Switch ON/OFF.

3. Press the [PAGE] or [KIT] button, select EQ gain page. These parameters adjust the three bands of Master EQ(-12dB-12dB).

Overall Kit Settings	
Kit	Volume
Global	Reverb on/off
	EQ High gain
	EQ Middle gain
	EQ Low gain

Selecting the Pad to Edit

The current pad to be edited can be selected either by pressing its Pad Select button, or by striking the pad itself. The PAD indicator will light up to show which pad is currently selected. If the rim of a pad is selected, both the PAD indicator and the RIM indicator will turn on.

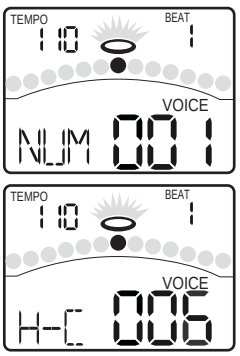


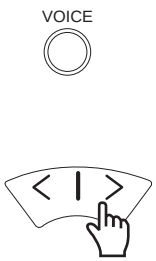
About the Drum Instruments

The digital drum features 385 different drum instruments which are categorized into 9 separate groups, such as Acoustic Kick, Electric Kick, Acoustic Snare, Electric Snare, Percussion. You can individually adjust the volume, pan, pitch, reverb settings for instruments set to the pad.

Selecting Instruments

If the digital drum is not yet in VOICE menu, press the [VOICE] button to enter it. The VOICE indicator will light up, and the LCD will display the current voice number.





1. Press the [<] or [>] buttons to change a pad's Individual voice (001-385).

2. If the selected pad is Hi-Hat, an additional option is available: Hi-Hat Combination (001-007).

Drum Instrument Settings

1. Press the [PAGE] or [VOICE] button, select Pad Volume page. The parameter adjusts the volume of the pad.

2. Press the [PAGE] or [VOICE] button, select Pad Pan page. The parameter adjusts the pan of the pad.

3. Press the [PAGE] or [VOICE] button, select Pad Pitch page. The parameter adjusts the pitch of the pad.

4. Press the [PAGE] or [VOICE] button, select Pad Reverb page. The parameter adjusts the reverb level of the pad.

Drum Instrument Settings	
Voice Setting	Volume(0-32)
	Pan(-8-8)
	Pitch(-8-8)
	Reverb(0-16)
Settings for Other Functions	
MIDI	MIDI Note(0-127)
Others	Pad Song Switch(ON/OFF)
	Song Number(1-80)

Settings for Other Functions

5. Press the [PAGE] or [VOICE] button, select Pad MIDI Note page. The parameter sets MIDI Note Number for each pad.

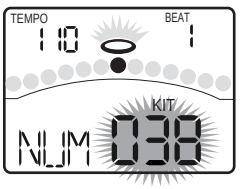
6. Press the [PAGE] or [VOICE] button, select Pad Song pages. The parameters sets pad song function ON and choose the song numbers.

Press the [<] or [>] buttons to adjust the parameters.

HINT
While editing Voice Number, Pitch, Pan, Volume, and Reverb, you can also preview the result of the current settings by pressing the Pad Select button to play the edited voice.

Saving to a User Drum Kit

After change any kit parameter, please press the [SAVE] button to save the current settings to the user kit (No. 25-40). The number of user kit will be flashed. Press the [SAVE] button to save to user kit and return to Kit Select page.



Making the Settings for Pads

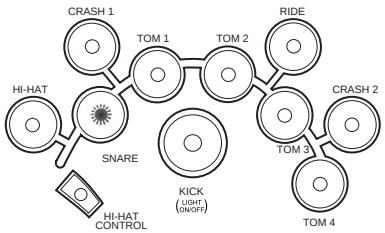
About Settings of Pads

If the digital drum is not yet in UTILITY menu, press the [UTILITY] button to enter it.

The UTILITY indicator will light up. You can use the [<] or [>] buttons to adjust parameters (as shown to the right) for each pad as well as the rim sensitivity of the pad and the splash sensitivity of the Hi-Hat control pedal.

The current pad to be edited can be selected either by pressing its Pad Select button, or by striking the pad itself. The PAD indicator will light up to show which pad is currently selected. If the rim of a pad is selected, both the PAD indicator and the RIM indicator will turn on.

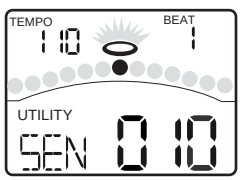
Pad Settings	
Pad	Sensitivity(1-16)
	Threshold(0-16)
	Crosstalk(1-16)
	Curve(1-6)
Special	Rim Sensitivity(1-16)
	Splash Sensitivity(1-9)

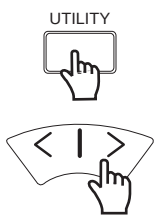


Adjusting the Pad Sensitivity

Press the [PAGE] or [UTILITY] button, select Pad Sensitivity page. The display will show:

Changes how a pad responds to your playing. At higher sensitivities, the pad will generate a louder signal, even when you play softly. At lower sensitivities, the pad will generate a quieter signal, even if you play strongly. Adjust according to your playing style and desired dynamic range.

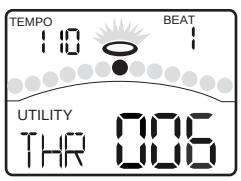


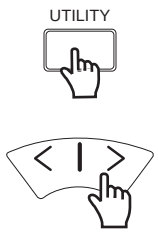


Setting the Pad Threshold

Press the [PAGE] or [UTILITY] button, select Pad Threshold page. The display will show:

Changes how forcefully you must strike the pad to generate a trigger signal. Setting a high threshold requires hitting the pad very hard to get a sound. This can help cut out transient responses, such as vibrations from the kit or accidental pad taps that you don't intend to generate sounds. Setting a low threshold means even light touches will produce sound. Adjust according to environment and playing style.

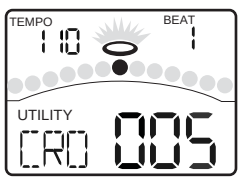


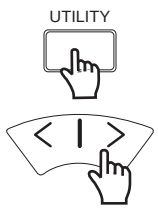


Eliminating Crosstalk between Pads

Press the [PAGE] or [UTILITY] button, select Pad Crosstalk page. The display will show:

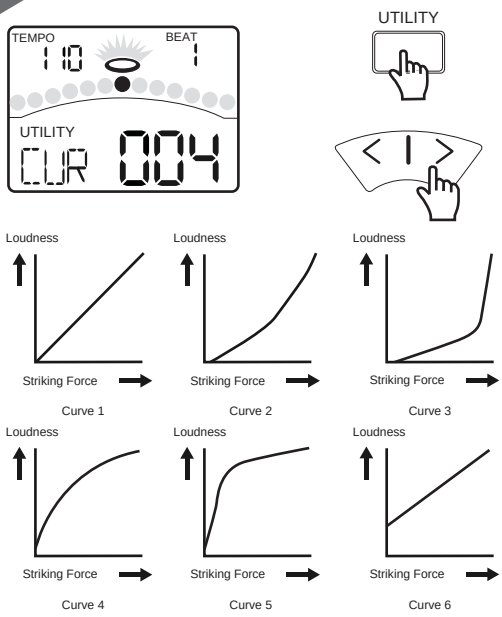
When two pads are mounted close to each other, hitting one pad may trigger the sound from another pad unintentionally. This effect can be eliminated by setting this parameter to a higher value on the pad is triggered unintentionally.





HINT
If the value is set too high, then when two pads are played simultaneously, the one that is struck less forcefully will not sound. So be careful and set this parameter to the minimum value required to prevent such crosstalk.

Selecting the Pad Curve



Press the [PAGE] or [UTILITY] button, select Pad Curve page. The display will show:

Curve refers to how the trigger signal's dynamic response relates to your pad hit.

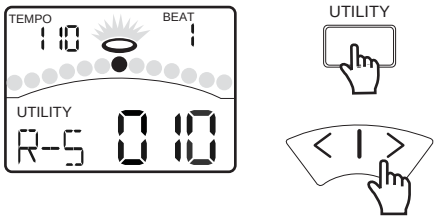
Curve1: The standard setting, this produces the most natural correspondence between playing dynamics and volume change.

Curve2, 3: Compared to Curve1, strong dynamics produce a greater change.

Curve4, 5: Compared to Curve1, a soft playing produces a greater change.

Curve6: Very little dynamic response, making it easy to maintain strong volume levels. If using drum triggers, these settings help maintain stable levels.

Setting Rim Sensitivity on Pads

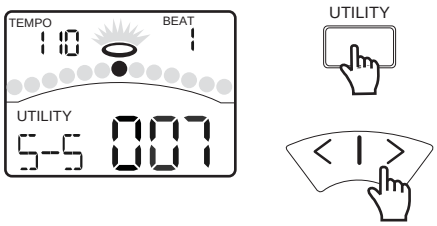


You can only set rim sensitivity on Snare, Tom1, Tom2, Tom3, Tom4. If you select the other pads, this page will not appear. Press the [PAGE] or [UTILITY] button, select Pad Rim Sensitivity page. The display will show:
Same as the basic sensitivity feature, except that it relates specifically to playing the rim.

Note:

This parameter can be adjusted only on SNARE, TOM1, TOM2, TOM3, TOM4. If you select the other pads on this page, a horizontal line "---" appears, and you can't make the setting.

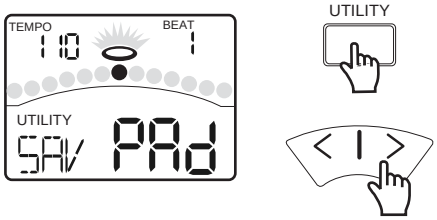
Adjusting the Hi-Hat Pedal Splash Sensitivity



Press the [PAGE] or [UTILITY] button, select Pedal Splash Sensitivity page. The display will show:

This Setting control the sensitivity of the foot splash.

Saving Settings of Pads



After adjusting the trigger settings (sensitivity, Threshold, crosstalk, curve, rim sensitivity, splash sensitivity), you can save them into memory. In UTILITY menu, press the [SAVE] button to store all pad settings.

Note:

1. If you turn off the power without saving, you will lose the trigger setting changes you have just made.

2. These parameters affect all kits.

Setting the Metronome

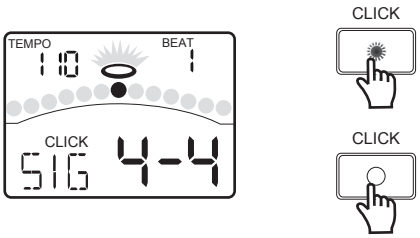
About Click

The digital drum is equipped with a built-in metronome, which can be used by itself as a rhythm guide for practice, or in conjunction with the song playback or record functions. If the digital drum is not yet in CLICK menu, press the [CLICIK] button to enter it. In CLICK menu, you can use the [<] or [>] button to adjust the parameters(as shown to the right).

Click Settings	
Time signature	0-9/2, 0-9/4, 0-9/8, 0-9/16
Interval	1-2, 3-8, 1-4, 1-8, 1-12, 1-16
Volume	0-32
Voice	1-5

Switching the Click On/Off

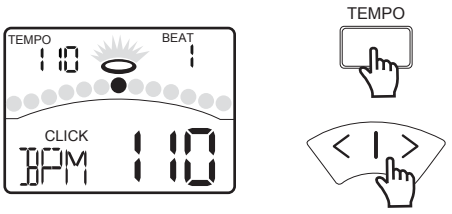
1. Press the [CLICK] button to start the metronome. The CLICK indicator will blink accordingly. The metronome will play at the current Time signature and tempo (displayed in the left right corner of the LCD)
2. Press the [CLICK] button again to stop the metronome. The CLICK indicator will turn off.



Adjusting the Click Tempo

Press the [TEMPO] button, and use the [<] and [>] buttons to adjust the current click tempo.

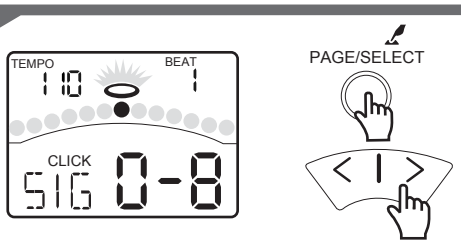
The current tempo always displays in the top left corner of the LCD.



Setting the Time Signature

Press the [PAGE] button, select Click Time signature page. The display will show:

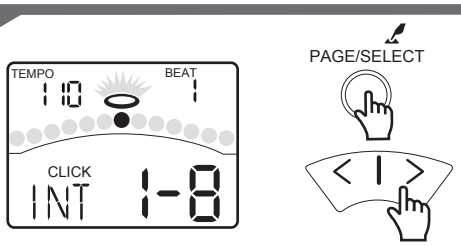
When the parameter is set to "0", such as 0-2,0-4,0-8,0-16, no accent is added to the first beat.



Setting the Interval

Press the [PAGE] button, select Click Interval page. The display will show:

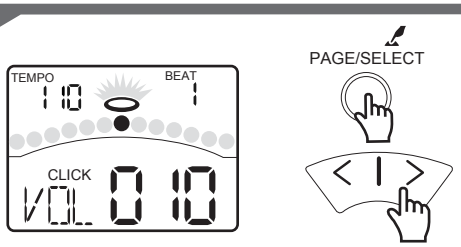
This parameter sets how the sound plays.



Adjusting the Click Volume

Press the [PAGE] button, select Click Volume page. The display will show:

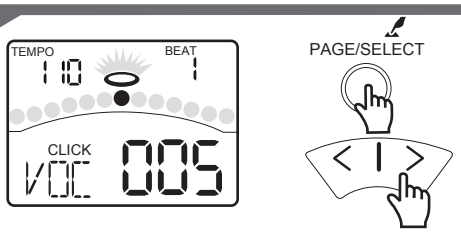
This parameter adjust the volume of the click sound.



Selecting the Click Sound

Press the [PAGE] button, select Click Voice page. The display will show:

This parameter choose the sound for the click.



About Songs

There are 80 preset songs in the digital drum:

- 50 Looped Patterns
- 10 Looped Percussion Patterns
- 5 Hit Songs
- 15 Tap Songs

Please refer to ***Song List***. In SONG menu, you can select the song number and adjust the volume of the song's accompaniment and drum part.

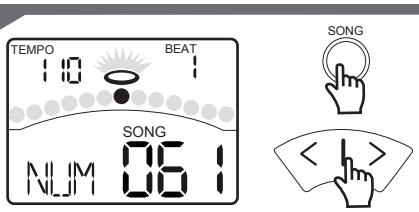
Song Settings	
No.	Number(1-80)
Mix	Accomp(0-32)
	Drum(0-32)

HITN
The sounds in the tap song are played back one by one in sequence each time [START] is pressed or hitting the pad which is functioned as "pad song".

Selecting a Song

If the digital drum is not yet in SONG menu, press the [SONG] button to enter it. The SONG indicator will light up, and the LCD will Display the current song number.

Press the [<] or [>] button to select a song. When holding down [>], the song number increase rapidly. When holding down [<], it decrease rapidly.

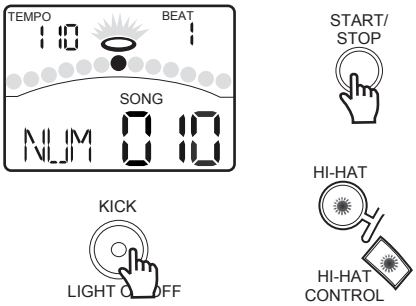


HITN
If the song number is switched while playing, the new song won't start until the end of the current bar.

Playing Back a Song

Press the [START/STOP] button to start song playback. The LCD will display the current playing beat. Press the [START/STOP] button again, stop the song during playback. During song playback in SONG menu, the PAD indicators will show which pads of the drum track is triggering.

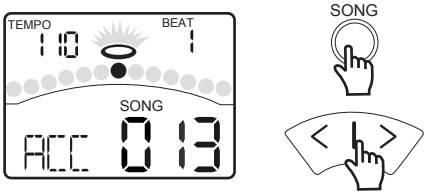
This function can be disabled or enabled by pressing the [KICK] button while in SONG menu.



Adjusting the Accompaniment Volume

Press the [PAGE] or [SONG] button, select Song Accompaniment volume page. The display will show:

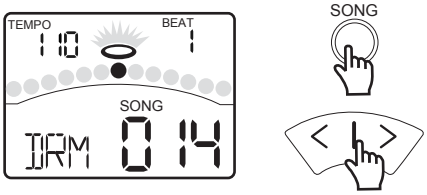
Use the [<] or [>] to adjust it. It will be restore to default value on the next power on.



Adjusting the Drum Volume

Press the [PAGE] or [SONG] button, select Song Drum volume page. The display will show:

Use the [<] or [>] to adjust it. It will be restore to default value on the next power on.



Muting the Drums in Songs

Press the [DRUM OFF] button to enable and disenable the drum mute function. When DRUM OFF is enabled, the LED will turn on.

Recording a Song

About Recording

In NORMAL mode, the digital drum allows you to quickly record your performance as you play the pads. There are two ways to start recording a new song:

- Press the [START/STOP] button
- Hit any pad

On Recording Standby, you can use the [<] or [>] button to adjust the parameters(as shown to the right).

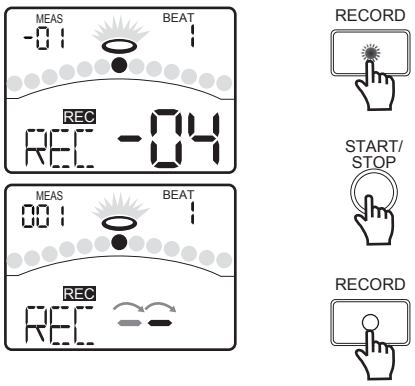
Record Settings	
Song Number	---/1-60
Kit	1-40
Tempo	30-280
Signature	1-9/2, 1-9/4, 1-9/8, 1-9/16
Interval	1-2, 3-8, 1-4, 1-8, 1-12, 1-16
Drum Off	---/ON/OFF
Pre Count	ON/OFF

Recording Pad Performances

1. Press the [RECORD] button, enter recording standby. The [RECORD] led will flash.

2. Press the [START/STOP] button or strike the pad. Recording will start. The RECORD led will turn on. After Count-in, the display will show:
Now you will record your performance.

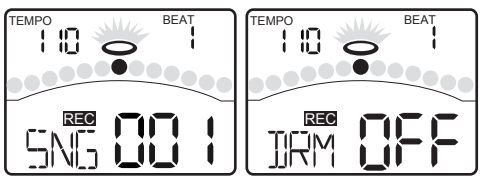
3. Press the [START/STOP] button again, or press the [RECORD] button. Stop recording, the [RECORD] led will turn off.



Recording Performances Accompanied with a Song

If you want to record your performance accompanied with a song, first set the parameters (Song Number and Drum off) before start to record. The display will be as shown to the right:

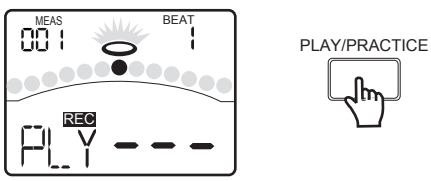
For details on setting, refer to Recording Standby. Recording operations are as mentioned above.



Playing Back Your Recorded Performance

1. Press the [PLAY] button. Play back your recording. The display will show:

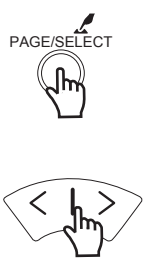
2. Press the [PLAY] button again. Stop playing back your performance.



Recording Standby

Use the [PAGE] button to scroll through the various record parameters and the [<] or [>] button to adjust the value.

Page1:Setting the song accompanied or not
Page2:Selecting the drum kit that you want to record.
Page3:Setting the recording tempo
Page4:Setting the time signature
Page5:Setting the interval
Page6:Setting the drums in songs muted or not
Page7:Setting a measure count-in inserted or not before recording.



About Learning Mode

The LEARNING mode is a unique set of exercises specifically designed to help build speed, accuracy and stamina, as well as develop better drum skills.

There are 42 practices in the digital drum:

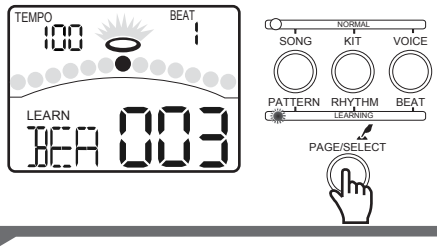
- 20 Beats (Only Snare)
- 12 Rhythms (Only Drum, from Level1-Level6)
- 10 Patterns (from Level1-Level5)

You can select appropriate patterns to practice depending on your present skills.

There are 3 states in Learning mode:

Follow me: Practice with the selected pattern
Score: Record and score your practice
Playback: Play back your recorded practice

If the digital drum is not yet in LEARNING mode, press and hold the [PAGE/SELECT] button for 1 second. The Led of LEARNING mode will turn on. The display will show:



Practicing with Beats

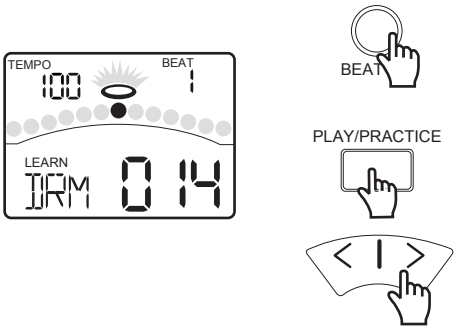
If the digital drum is not yet in BEAT menu, press the [BEAT] button to enter it. You can adjust the parameters (as shown to the right).

Beat	
Number	1-20
Drum Volume	0-32

1. Press the [<] or [>] button to select the beat.

2. Press the [PRACTICE] button to listen to the beat and follow it. Press it again to stop the beat.

3. Press the [BEAT] or [PAGE] button to select the Beat Drum volume page. Press the [<] or [>] button to adjust the drum volume of the beat.



Practicing with Rhythms

If the digital drum is not yet in RHYTHM menu, press the [RHYTHM] button to enter it. You can adjust the parameters (as shown to the right).

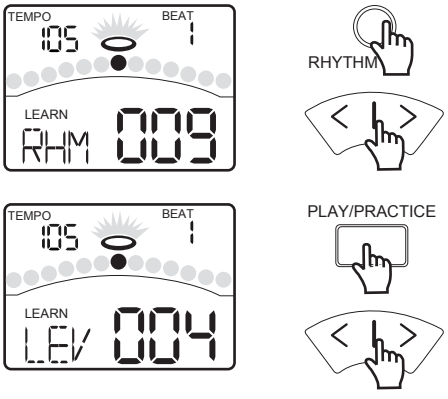
Rhythm	
Number	1-12
Level	1-6
Drum Volume	0-32

1. Press the [<] or [>] button to select the rhythm.

2. Press the [PRACTICE] button to listen to the rhythm and follow it. Press it again to stop the rhythm.

3. Press the [RHYTHM] or [PAGE] button to select the Rhythm Level page. Press the [<] or [>] button to select the level of the rhythm.

4. Press the [RHYTHM] or [PAGE] button to select the Rhythm Drum Volume page. Press the [<] or [>] button to adjust the drum volume of the rhythm.



Practicing with Patterns

If the digital drum is not yet in Pattern menu, press the [PATTERN] button to enter it. You can adjust the parameters (as shown to the right).

Pattern	
Number	1-10
Level	1-5
Accompany Volume	0-32
Drum Volume	0-32

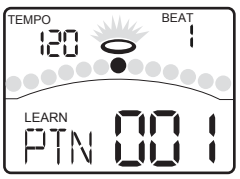
1. Press the [<] or [>] button to select the pattern.

2. Press the [PRACTICE] button to listen to the pattern and follow it. Press it again to stop the pattern.

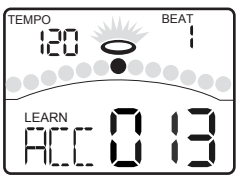
3. Press the [PATTERN] or [PAGE] button to select the Pattern Level page. Press the [<] or [>] button to select the level of the pattern.

4. Press the [PATTERN] or [PAGE] button to select the Pattern Accompany Volume page. Press the [<] or [>] button to adjust the accompaniment volume of the pattern.

5. Press the [PATTERN] or [PAGE] button to select the Pattern Drum Volume page. Press the [<] or [>] button to adjust the drum volume of the pattern.



PLAY/PRACTICE

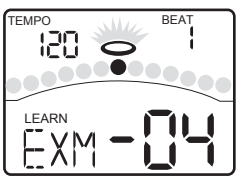


Recording and Scoring Your Practice

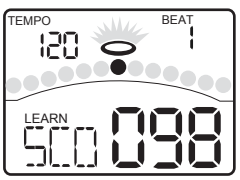
1. Press the [START/STOP] button, you can enter the score state. A measure count-in will be inserted before playing back the pattern so that you can practice in good time. When playing back the pattern, your performance will be recorded automatically. When finished playback, the digital drum will score your practice automatically.

   The display will show the score for 3 seconds.

2. Press the [START/STOP] button again to stop playing back the pattern and recording your practice during the playback



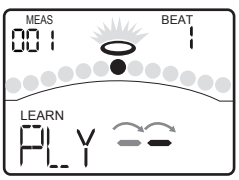
START/
STOP



Playing Back Your Recorded Practice

1. Press and hold the [PLAY/PRACTICE] button for 2 seconds, you can enter the playback state. The display will show:
   You will listen to your recorded practice.

2. Press the [PLAY/PRACTICE] button again. Stop playing back the recorded practice.



PLAY/PRACTICE

About MIDI

MIDI (Musical Instrument Digital Interface) is a standard that allows performance data and other information to be exchanged among electronic musical instruments and computers. With a MIDI cable connecting MIDI connectors equipped device, you can play multiple instruments with a single keyboard, have multiple instruments perform in ensemble, program the settings to change kits automatically to match the performance as the song progress, and more.

MIDI Connection

MIDI IN: This terminal receives MIDI data from an external MIDI device.

MIDI OUT: This terminal transmits data from the digital drum to other MIDI devices.

USB Connection

The USB connector allows you to connect the digital drum directly to your computer. It can be connected without installing a driver in Windows XP/Vista/Win7 or MAC OSX environments. The digital drum will be recognized as a "USB Audio device" to receive and transmit MIDI messages through a single USB cable. The USB port is used only for MIDI messages (MIDI via USB)

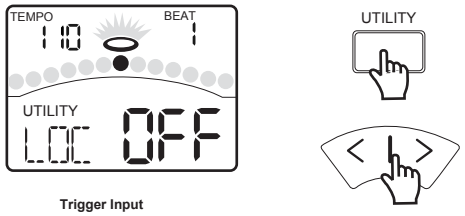
Note:

When the USB port is connected to a computer, all MIDI messages will be received and transmitted via USB.

Making the MIDI Settings

If the digital drum is not yet in UTILITY menu, press The [UTILITY] button to enter it. Press the [PAGE] or [UTILITY] button, select Local mode pages. The display will show:

MIDI Settings	
Local on/off	ON/OFF
GM on/off	ON/OFF

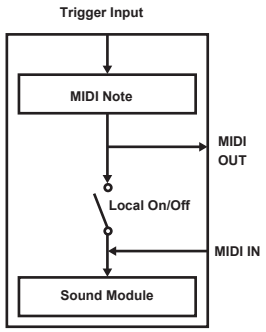


Press the [<] or [>] button, set local mode to ON or OFF.

Local Mode

Local OFF: The pads and internal sequencer are disconnected from the digital drum's internal sound generator. Striking the pads does not cause sound to be produced by the internal sound generator.

Local ON: The pads and internal sequencer are connected to the digital drum's internal sound generator. Sounds are produced by the internal sound generator when the pads are struck.

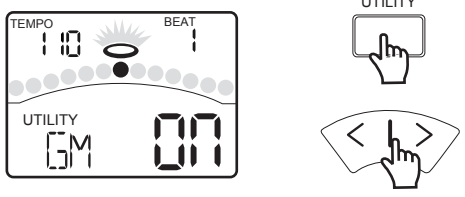


GM Mode

Press the [PAGE] or [UTILITY] button, select GM mode pages. The display will show:

Press the [<] or [>] button, set GM mode to ON or OFF.

Refer to ***Using the Digital Drum as a Sound Module***.



Sync Mode

Press the [START/STOP] button to start or stop songs playback, the digital drum will transmit the MIDI system real-time Message: FA or FC.

Connecting with an External Sound Device

The digital drum transmission channel for the drum kit is fixed to Channel 10. It will output MIDI data generated by the triggers when hitting the pads or stepping on the Hi-Hat control pedal (Note ON/OFF, and Foot messages). Song playback data and metronome notes are not transmitted.

Recording Your Performance to an External Sequencer

1. Connect the MIDI OUT of the digital drum to the MIDI IN of your sequencer, and the MIDI OUT of your sequencer to the MIDI IN of the digital drum. If you are using a software sequencer on a computer, you can simply connect the USB port of the digital drum to a USB port of your computer using a single USB A-B cable.
2. Setup the active track of your sequencer on Channel 10. Activate **RECORD** on your sequencer.
3. Play the pads of your digital drum.
4. Stop recording. Locate your sequencer to the start of your recording.
5. Playback the recorded sequencer.

Setting MIDI Note Number to be Transmitted/Received by Each Pad

Each drum kit can have it's own set of MIDI note to be transmitted/received by each pad, useful for advanced purpose. Normally, you'll never need to change them, but if you want to change, please follow these step:

1. Press the [VOICE] button in NORMAL mode, enter the VOICE menu.
2. Press the [PAGE] or [VOICE] button, select Pad MIDI Note page.
3. Press the [<] or [>] button, change the MIDI Note Number for each pad. Hit the pad you wish to set or press the related Pad Select button.
4. Press the [SAVE] button twice to save to user kit.

Trigger	MIDI Note	Trigger	MIDI Note	Trigger	MIDI Note	Trigger	MIDI Note	Trigger	MIDI Note
Kick	36	Tom1 R	50	Tom3 R	58	Crash 1	49	Hi-Hat C	42
Snare	38	Tom2	45	Tom4	41	Crash 2	57	Hi-Hat P	44
Snare R	40	Tom2 R	47	Tom4 R	39	Hi-Hat O	46	Splash	21
Tom1	48	Tom3	43	Ride	51	Hi-Hat HO	23		

Using the Digital Drum as a Sound Module

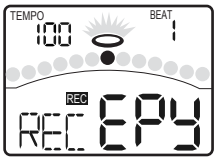
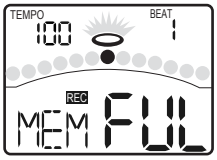
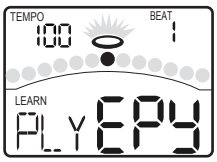
Connecting an external keyboard or sequencer to the MIDI Input allows you to use the digital drum as a multi-part, polyphonic sound module to play various instrument parts in addition to your drums (for instance, Piano on Channel 1, Bass on Channel 2, Strings on Channel 3, etc). The voices on each MIDI channel are selected using MIDI Program Change messages (refer to ***GM Backing Instrument List***).

The MIDI system in the digital drum has 16 reception channels numbered from 1-16. Each of the channels is responsible for a voice. When the instrument receives MIDI information from an external device, the active channel is determined by the control message. Channel 10 is reserved for Drums. The digital drum has two options for Channel 10: GM ON or OFF, as selected in MIDI UTILITY menu.

- When GM Mode is ON,Channel 10 will play the GM percussion kits.
- When GM Mode is OFF, Channel 10 will play the digital drum internal kits.

Note:

For more information on received MIDI messages, refer to ***MIDI implementation chart***.

Display	Meaning	Action
	Resetting the digital drum is failed.	Please call the distributor, maybe it need repair.
	There isn't data in the digital drum's memory.	Please record your performance, and then play it.
	There is full of data in the digital drum's memory. You can not record any data.	If you want to record another song, please restart recording and replace it.
	You didn't record your practice in the Learning mode.	Please press the [START/STOP] button to score your practice, and then play back your practice.

Troubleshooting

Problem	Possible Cause and Solution
No Sound	1) Rotate the [VOLUME] knob to be sure that the volume isn't down. 2) To be sure that Local Mode should be set to "ON".
No Sound from Pads	1) To be sure that the pad is connected correctly. 2) To be sure not set the volume of the pad to 0.
No Click Sound	1) To be sure not set the volume of the click to 0.
Sound is Distorted	1) Turn down the volume.

Specifications

Maximum Polyphony
64

Drum kits
Drum Kits: 40 (24 Preset Kits + 16 User Kits)
General MIDI Kits: 11 GM Kits

Instruments
Drum Instruments: 385 (Drums, Percussion, SFX)
7 Hi-Hat Combos

Effect
Reverb,3 Band Equalizer

Sequencer
Normal: Song 80
Learning: Beat 20, Rhythm 12, Pattern 10
Resolution:120 ticks per quarter note
Recording Method: Real-time
Maximum Note Storage:approx.1600 Notes

Tempo
30~280

Display
Backlit Segment LCD

Connectors
9 Trigger Input Jack, Phone Jack(stereo), Aux In Jack(stereo), 2 External Trigger Input Jack(Tom4, Crash2), Output(L/Mono, R), USB,MIDI IN,MIDI OUT

Control Buttons
Power on/off switch, Volume, Start/Stop, Save, Song, Kit, Voice, Page/Select, INC/DEC, Click, Drum off, Record, Tempo, Utility, Play/Practice

Pad Select Buttons
12 Pad Select Buttons

Power Supply
DC 9V

Dimensions
147.1(W) × 183.3(H)× 111.7(D)mm

Weight
0.5 kg

Drum Kit List

NO.	PRESET KIT	NO.	DEFAULT USER KIT
1	Acoustic	**25**	Acoustic
2	Standard 1	**26**	Standard 1
3	Standard 2	**27**	Standard 2
4	Funk 1	**28**	Funk 1
5	Funk 2	**29**	Funk 2
6	Fusion	**30**	Fusion
7	Camco	**31**	Camco
8	Brush	**32**	Brush
9	Room	**33**	Room
10	Rock	**34**	Rock
11	PopRock	**35**	PopRock
12	Jazz	**36**	Jazz
13	JazzBrush	**37**	JazzBrush
14	Timpani	**38**	Timpani
15	Songo	**39**	Songo
16	1971's	**40**	1971's
17	Disco		
18	TR606		
19	909		
20	HipHop 1		
21	HipHop 2		
22	Electronic 1		
23	Electronic 2		
24	Teckno		

Drum Instrument List

NO.	NAME
ACOUSTIC KICK	
1	Standard Kick 1
2	Standard Kick 2
3	Classic Kick 1
4	Classic Kick 2
5	Rock Kick 1
6	Rock Kick 2
7	Rock Kick 3
8	Room Kick 1
9	Room Kick 2
10	Jazz Kick 1
11	Jazz Kick 2
12	Big Band Kick 1
13	Big Band Kick 2
14	Camco Kick 1
15	Camco Kick 2
16	Funk Kick 1
17	Funk Kick 2
18	Funk Kick 3
19	HipHop Kick 1
20	HipHop Kick 2
21	HipHop Kick 3
22	HipHop Kick 4
23	1969 Kick
24	1971 Kick
25	1976 Kick
26	Pwrbd Kick
27	R&B Kick
28	Voice Kick
29	Acoust Kick
ELECTRONIC KICK	
30	Orchestra Kick
31	House Kick 1
32	House Kick 2
33	House Kick 3
34	House Kick 4
35	Step Kick
36	Teckno Kick
37	Drum Bass Kick
38	Junkyard Kick
39	Noise Kick
40	Industry Kick
41	Lowfi Kick
42	Disco Kick
43	808 Kick
44	909 Kick
45	Electronic Kick 1
46	Electronic Kick 2
47	Electronic Kick 3
48	Electronic Kick 4
49	Electronic Kick 5
50	Electronic Kick 6
51	Electronic Kick 7
ACOUSTIC SNARE	
52	Standard Snare
53	Standard Snare Rim
54	Classic Snare 1
55	Classic Snare Rim 1
56	Classic Snare 2
57	Classic Snare Rim 2
58	Acoustic Snare
59	Acoustic Snare Rim
60	Rock Snare 1
61	Rock Snare Rim 1
62	Rock Snare 2
63	Rock Snare 3
64	Room Snare 1
65	Room Snare 2
66	Room Snare 3
67	Steel Snare
68	Steel Snare Rim
69	Jazz Snare 1
70	Jazz Snare Rim 1
71	Jazz Snare 2
72	Jazz Snare Rim 2
73	Jazz latin Snare
74	Big Band Snare
75	Camco Snare
76	Camco Snare Rim
77	Brush Snare 1
78	Brush Snare 2
79	Brush Snare Rim
80	Funk Snare 1
81	Funk Stick
82	Funk Band Snare
83	Funk Band Snare Rim
84	Funk Band Snare Stick
85	Fusion Snare
86	Fusion Snare Stick
87	Snare Stick
88	Pwrbd Snare
89	HipHop Snare 1
90	HipHop Snare 2
91	1969 Snare
92	1969 Snare Rim
93	1971 Snare
94	1971 Snare Rim
95	1976 Snare
96	1976 Snare Rim
ELECTRONIC SNARE	
97	House Snare 1
98	House Snare 2
99	House Snare 3
100	Teckno Snare 1
101	Teckno Snare 2
102	808 Snare
103	909 Snare
104	Drum Bass Snare 1
105	Drum Bass Snare 2
106	TR606 Snare
107	Electronic Snare 1
108	Electronic Snare 2
109	Electronic Snare 3
110	Electronic Snare 4
111	Electronic Snare 5
112	Electronic Snare 6
113	Electronic Snare 7
114	Electronic Snare 8
ACOUSTIC TOM	
115	Classic Tom 1
116	Classic Tom 2
117	Classic Tom 3
118	Classic Tom 4
119	Classic Tom 5
120	Classic Tom 6
121	Standard Tom 1
122	Standard Tom 2
123	Standard Tom 3
124	Standard Tom 4
125	Standard Tom 5
126	Standard Tom 6
127	Camco Tom 1
128	Camco Tom 2
129	Camco Tom 3
130	Camco Tom 4
131	Camco Tom 5
132	Camco Tom 6
133	Rock Tom 1
134	Rock Tom 2
135	Rock Tom 3
136	Rock Tom 4
137	Rock Tom 5
138	Rock Tom 6
139	Room Tom 1
140	Room Tom 2
141	Room Tom 3
142	Room Tom 4
143	Room Tom 5
144	Room Tom 6
145	Funk Tom 1
146	Funk Tom 2
147	Funk Tom 3
148	Funk Tom 4
149	Funk Tom 5
150	Funk Tom 6
151	Fusion Tom 1
152	Fusion Tom 2
153	Fusion Tom 3
154	Fusion Tom 4
155	Fusion Tom 5
156	Fusion Tom 6
157	1969 Tom 1
158	1969 Tom 2
159	1969 Tom 3
160	1969 Tom 4
161	1971 Tom 1
162	1971 Tom 2
163	1971 Tom 3
164	1971 Tom 4
165	1976 Tom 1
166	1976 Tom 2
167	1976 Tom 3
168	1976 Tom 4
169	HipHop Tom 1
170	HipHop Tom 2
171	HipHop Tom 3
172	HipHop Tom 4
173	HipHop Tom 5
174	HipHop Tom 6
175	Jazz Tom 1
176	Jazz Tom 2
177	Jazz Tom 3
178	Jazz Tom 4
179	Jazz Tom 5
180	Jazz Tom 6
181	Brush Tom 1
182	Brush Tom 2
183	Brush Tom 3
184	Brush Tom 4
185	Brush Tom 5
186	Brush Tom 6
187	Tom Rim 1
188	Tom Rim 2
189	Tom Rim 3
190	Tom Rim 4
191	Timpani 1
192	Timpani 2
193	Timpani 3
194	Timpani 4

Drum Instrument List

ELECTRONIC TOM

195 TR606 Tom 1
196 TR606 Tom 2
197 TR606 Tom 3
198 TR606 Tom 4
199 TR606 Tom 5
200 TR606 Tom 6
201 808 Tom 1
202 808 Tom 2
203 808 Tom 3
204 808 Tom 4
205 808 Tom 5
206 808 Tom 6
207 Electronic Tom 1
208 Electronic Tom 2
209 Electronic Tom 3
210 Electronic Tom 4
211 Electronic Tom 5
212 Electronic Tom 6
213 909 Tom 1
214 909 Tom 2
215 909 Tom 3
216 909 Tom 4

CYMBAL

217 Classic Ride
218 Acoustic Ride
219 Standard 22” Ride
220 Brush Ride
221 Rock Ride
222 Clean Pop Ride
223 Flat Ride
224 60’s Ride
225 808 Ride
226 Classic Crash 1
227 Classic Crash 2
228 Standard Crash 1
229 Standard Crash 2
230 Standard Crash 3
231 Rock Crash 1
232 Rock Crash 2
233 Splash
234 Brush Crash
235 China
236 Orchestra Crash
237 HipHop Crash
238 808 Crash
239 606 Crash
240 Electronic Crash

HI-HAT

241 Standard HH Open
242 Pop HH Open
243 Rock HH Open
244 Jazz HH Open
245 Electronic HH Open
246 808 HH Open
247 House HH Open
248 Standard HF Open
249 Pop HF Open
250 Rock HF Open
251 Jazz HF Open
252 Standard HH Close
253 Pop HH Close
254 Rock HH Close
255 Jazz HH Close
256 Electronic HH Close
257 808 HH Close
258 House HH Close
259 Standard HH Pad
260 Pop HH Pad
261 Rock HH Pad
262 Jazz HH Pad
263 Electronic HH Pad
264 808 HH Pad
265 House HH Pad
266 Standard HH Splash
267 Rock HH Splash

PERCUSSION

268 Metronome Bell
269 Metronome Click
270 Scratch
271 Scratch Push
272 DJ FX
273 HiQ Zap
274 Ding Bell
275 Finger Snaps
276 Standard Clap
277 Tambourine
278 Vibraslap
279 Agogo Low
280 Agogo High
281 Bell Tree
282 Bongo High
283 Bongo Low
284 Shaker
285 Conga Slap High
286 Conga Slap Mid
287 Conga Low
288 Open Conga
289 Conga Slap
290 Cowbell
291 Timbale Hi
292 Timbale Low
293 Timpani High
294 Timpani Low
295 Open Tabla High
296 Open Tabla Low
297 Slap Tabla
298 Mute Tabla Slap
299 Cabasa
300 Maracas
301 Short Whistle
302 Guiro Short
303 Guiro Long
304 Claves
305 Woodblock
306 Cuica Muted
307 Cuica Open
308 Triangle Muted
309 Triangle Open
310 Sleigh Bells
311 Wind Chimes
312 Castanets
313 Surdo Muted
314 Surdo Open
315 Lotus Drum
316 Cowbell 1
317 Cowbell 2
318 Cowbell 3
319 Cowbell 4
320 Cowbell 5
321 Cowbell 6
322 Cowbell 7
323 Cowbell 8
324 Cowbell 9
325 Cowbell 10
326 Cowbell 11
327 Tabla 1
328 Tabla 2
329 Tabla 3
330 Tabla 4
331 Tabla 5
332 Tabla 6
333 Da Gu 1
334 Da Gu 2
335 Zhu Ban
336 Nan Bang
337 Da Mu Yu
338 Mu Yu 1
339 Mu Yu 2
340 Mu Yu 3
341 Mu Yu 4
342 Pai Gu 1
343 Pai Gu 2
344 Pai Gu 3
345 Mang Luo 1
346 Mang Luo 2
347 Mang Luo 3
348 Da Luo 1
349 Da Luo 2
350 Da Po 1
351 Da Po 2
352 Xiao Po
353 Xiao Luo
354 Tenluo
355 Peng Lin
356 Dog Luo
357 DJ 001
358 DJ 002
359 DJ 003
360 DJ 004
361 DJ 005
362 DJ 006
363 DJ 007
364 DJ 008
365 DJ 009
366 DJ 010
367 One
368 Two
369 Three
370 Four
371 Five
372 Six
373 Seven
374 Eight
375 Nine
376 Metronome Bell
377 Metronome Click
378 Clave Click 1
379 Clave Click 2
380 Stick Click 1
381 Stick Click 2
382 Cow Click 1
383 Cow Click 2
384 Fm Click 1
385 Fm Click 2

HI-HAT COMBINATIONS

1 Standard
2 Pop
3 Rock
4 Jazz
5 Electronic
6 808
7 House

GM Drum Kit List

Note No.	Standard 1 (bank 0)	Standard 2 (bank 4)	Room (bank 09)	Rock (bank 16)
27—D#1	High Q	<-	<-	<-
28 E1	Slap	<-	<-	<-
29—F1	Scratch Push	<-	<-	<-
30—F#1	Scratch Pull	<-	<-	<-
31—G1	Sticks	<-	<-	<-
32—G#1	Square Click	<-	<-	<-
33—A1	Metronome Click	<-	<-	<-
34—A#1	Metronome Bell	<-	<-	<-
35—B1	Acoustic Bass Drum	<-	Room 1 Bass Drum	Rock 1 Bass Drum
36—C2	Standard 1 Bass Drum	Standard 2 Bass Drum	Room 2 Bass Drum	Rock 2 Bass Drum
37—C#2	Side Stick	<-	<-	<-
38—D2	Standard 1 Snare	Standard 2 Snare	Room Snare	Rock Snare
39—D#2	Hand Clap	<-	<-	<-
40—E2	Standard 1 Snare Rim	Standard 2 Snare Rim	Room Snare Rim	Rock Snare Rim
41—F2	Standard 1 Tom 6	Standard 2 Tom 6	Room Tom 6	Rock Tom 6
42—F#2	Standard 1 Hihat close	Standard 2 Hihat close	Room Hihat close	Rock Hihat close
43—G2	Standard 1 Tom 5	Standard 2 Tom 5	Room Tom 5	Rock Tom 5
44—G#2	Standard 1 Hihat Pad	Standard 2 Hihat Pad	Room Hihat Pad	Rock Hihat Pad
45—A2	Standard 1 Tom 4	Standard 2 Tom 4	Room Tom 4	Rock Tom 4
46—A#2	Standard 1 Hihat Open	Standard 2 Hihat Open	Room Hihat Open	Rock Hihat Open
47—B2	Standard 1 Tom 3	Standard 2 Tom 3	Room Tom 3	Rock Tom 3
48—C3	Standard 1 Tom 2	Standard 2 Tom 2	Room Tom 2	Rock Tom 2
49—C#3	Standard 1 Crash 1	Standard 2 Crash 1	Room Crash 1	Rock Crash 1
50—D3	Standard 1 Tom 1	Standard 2 Tom 1	Room Tom 1	Rock Tom 1
51—D#3	Standard 1 Ride	Standard 2 Ride	Room Ride	Rock Ride
52—E3	Chinese 1	<-	<-	<-
53—F3	Ride Bell	<-	Room Ride Bell	Rock Ride Bell
54—F#3	Tambourine	<-	<-	<-
55—G3	Splash Cymbal	<-	Room Splash Cymbal	Rock Splash Cymbal
56—G#3	Standard 1 Cowbell	Standard 2 Cowbell	Room Cowbell	Rock Cowbell
57—A3	Standard 1 Crash 2	Standard 2 Crash 2	Room Crash 2	Rock Crash 2
58—A#3	Vibraslap	<-	<-	<-
59—B3	Ride Cymbal	<-	<-	<-
60—C4	Hi Bongo	<-	<-	<-
61—C#4	Low Bongo	<-	<-	<-
62—D4	Mute Hi Conga	<-	<-	<-
63—D#4	Open Hi Conga	<-	<-	<-
64—E4	Low Conga	<-	<-	<-
65—F4	High Timbale	<-	<-	<-
66—F#4	Low Timbale	<-	<-	<-
67—G4	High Agogo	<-	<-	<-
68—G#4	Low Agogo	<-	<-	<-
69—A4	Cabasa	<-	<-	<-
70—A#4	Maracas	<-	<-	<-
71—B4	Short Whistle	<-	<-	<-
72—C5	Long Whistle	<-	<-	<-
73—C#5	Short Guiro	<-	<-	<-
74—D5	Long Guiro	<-	<-	<-
75—D#5	Claves	<-	<-	<-
76—E5	Hi Wood Block	<-	<-	<-
77—F5	Low Wood Block	<-	<-	<-
78—F#5	Mute Cuica	<-	<-	<-
79—G5	Open Cuica	<-	<-	<-
80—G#5	Mute Triangle	<-	<-	<-
81—A5	Open Triangle	<-	<-	<-
82—A#5	Shaker	<-	<-	<-
83—B5	Jingle Bell	<-	<-	<-
84—C6	Belltree	<-	<-	<-
85—C#6	Castanets	<-	<-	<-
86—D6	Mute Surdo	<-	<-	<-
87—D#6	Open Surdo	<-	<-	<-

GM Drum Kit List

Note No.	Funk (bank 17)	Electronic (bank 24)	808 (bank 25)	House (bank 28)
27—D#1	<-	<-	<-	<-
28 E1	<-	<-	<-	<-
29—F1	<-	<-	<-	<-
30—F#1	<-	<-	<-	<-
31—G1	<-	<-	<-	<-
32—G#1	<-	<-	<-	<-
33—A1	<-	<-	<-	<-
34—A#1	<-	<-	<-	<-
35—B1	Funk 1 Bass Drum	Electronic 1 Bass Drum	808 1 Bass Drum	House 1 Bass Drum
36—C2	Funk 2 Bass Drum	Electronic 2 Bass Drum	808 2 Bass Drum	House 2 Bass Drum
37—C#2	<-	<-	<-	<-
38—D2	Funk Snare	Electronic Snare	808 Snare	House Snare
39—D#2	<-	<-	<-	House Hand Clap
40—E2	Funk Snare Rim	Electronic Snare Rim	808 Snare Rim	House Snare Rim
41—F2	Funk Tom 6	Electronic Tom 6	808 Tom 6	House Tom 6
42—F#2	Funk Hihat close	Electronic Hihat close	808 Hihat close	House Hihat close
43—G2	Funk Tom 5	Electronic Tom 5	808 Tom 5	House Tom 5
44—G#2	Funk Hihat Pad	Electronic Hihat Pad	808 Hihat Pad	House Hihat Pad
45—A2	Funk Tom 4	Electronic Tom 4	808 Tom 4	House Tom 4
46—A#2	Funk Hihat Open	Electronic Hihat Open	808 Hihat Open	House Hihat Open
47—B2	Funk Tom 3	Electronic Tom 3	808 Tom 3	House Tom 3
48—C3	Funk Tom 2	Electronic Tom 2	808 Tom 2	House Tom 2
49—C#3	Funk Crash 1	<-	808 Crash 1	<-
50—D3	Funk Tom 1	Electronic Tom 1	808 Tom 1	House Tom 1
51—D#3	Funk Ride	<-	<-	<-
52—E3	<-	<-	<-	<-
53—F3	<-	<-	<-	<-
54—F#3	<-	<-	<-	<-
55—G3	<-	<-	<-	<-
56—G#3	<-	<-	<-	<-
57—A3	Funk Crash 2	<-	808 Crash 2	<-
58—A#3	<-	<-	<-	<-
59—B3	<-	<-	<-	<-
60—C4	<-	<-	<-	<-
61—C#4	<-	<-	<-	<-
62—D4	<-	<-	808 Mute Hi Conga	<-
63—D#4	<-	<-	808 Open Hi Conga	<-
64—E4	<-	<-	808 Low Conga	<-
65—F4	<-	<-	<-	<-
66—F#4	<-	<-	<-	<-
67—G4	<-	<-	<-	<-
68—G#4	<-	<-	<-	<-
69—A4	<-	<-	<-	<-
70—A#4	<-	<-	808 Maracas	<-
71—B4	<-	<-	<-	<-
72—C5	<-	<-	<-	<-
73—C#5	<-	<-	<-	<-
74—D5	<-	<-	<-	<-
75—D#5	<-	<-	808 Claves	<-
76—E5	<-	<-	<-	<-
77—F5	<-	<-	<-	<-
78—F#5	<-	<-	<-	<-
79—G5	<-	<-	<-	<-
80—G#5	<-	<-	<-	<-
81—A5	<-	<-	<-	<-
82—A#5	<-	<-	<-	<-
83—B5	<-	<-	<-	<-
84—C6	<-	<-	<-	<-
85—C#6	<-	<-	<-	<-
86—D6	<-	<-	<-	<-
87—D#6	<-	<-	<-	<-

Note No.	Jazz (bank 32)	Brush (bank 40)	Orchestra (bank 48)
27—D#1	<-	<-	Concert Hihat close
28 E1	<-	<-	Concert Hihat Pad
29—F1	<-	<-	Concert Hihat Open
30—F#1	<-	<-	Concert Ride
31—G1	<-	<-	<-
32—G#1	<-	<-	<-
33—A1	<-	<-	<-
34—A#1	<-	<-	<-
35—B1	Jazz 1 Bass Drum	Brush 1 Bass Drum	Concert 1 Bass Drum
36—C2	Jazz 2 Bass Drum	Brush 2 Bass Drum	Concert 2 Bass Drum
37—C#2	<-	<-	<-
38—D2	Jazz Snare	Brush Snare	Concert Snare 1
39—D#2	<-	<-	Castanets
40—E2	Jazz Snare Rim	Brush Snare Rim	Concert Snare 2
41—F2	Jazz Tom 6	Brush Tom 6	Timpani F
42—F#2	Jazz Hihat close	<-	Timpani F#
43—G2	Jazz Tom 5	Brush Tom 5	Timpani G
44—G#2	Jazz Hihat Pad	<-	Timpani G#
45—A2	Jazz Tom 4	Brush Tom 4	Timpani A
46—A#2	Jazz Hihat Open	<-	Timpani A#
47—B2	Jazz Tom 3	Brush Tom 3	Timpani B
48—C3	Jazz Tom 2	Brush Tom 2	Timpani c
49—C#3	<-	Brush Crash 1	Timpani c#
50—D3	Jazz Tom 1	Brush Tom 1	Timpani d
51—D#3	Jazz Ride	Brush Ride	Timpani d#
52—E3	<-	<-	Timpani e
53—F3	<-	<-	Timpani f
54—F#3	<-	<-	<-
55—G3	<-	<-	<-
56—G#3	<-	<-	<-
57—A3	Chinese 2	Brush Crash 2	Concert Crash 1
58—A#3	<-	<-	<-
59—B3	<-	<-	Concert Crash 2
60—C4	<-	<-	<-
61—C#4	<-	<-	<-
62—D4	<-	<-	<-
63—D#4	<-	<-	<-
64—E4	<-	<-	<-
65—F4	<-	<-	<-
66—F#4	<-	<-	<-
67—G4	<-	<-	<-
68—G#4	<-	<-	<-
69—A4	<-	<-	<-
70—A#4	<-	<-	<-
71—B4	<-	<-	<-
72—C5	<-	<-	<-
73—C#5	<-	<-	<-
74—D5	<-	<-	<-
75—D#5	<-	<-	<-
76—E5	<-	<-	<-
77—F5	<-	<-	<-
78—F#5	<-	<-	<-
79—G5	<-	<-	<-
80—G#5	<-	<-	<-
81—A5	<-	<-	<-
82—A#5	<-	<-	<-
83—B5	<-	<-	<-
84—C6	<-	<-	<-
85—C#6	<-	<-	<-
86—D6	<-	<-	<-
87—D#6	<-	<-	<-

GM Backing Instrument List

PIANO

1	Acoustic Grand Piano
2	Bright Acoustic Piano
3	Electric Grand Piano
4	Honky-Tonk Piano
5	E.Piano 1
6	E.Piano 2
7	Harpsichord
8	Clavi

MALLET

9	Celesta
10	Glockenspiel
11	Music Box
12	Vibraphone
13	Marimba
14	Xylophone
15	Tubular Bells
16	Dulcimer

ORGAN

17	Drawbar Organ
18	Percussive Organ
19	Rock Organ
20	Church Organ
21	Reed Organ
22	Accordion
23	Harmonica
24	Tango Accordion

GUITAR

25	Nylon Guitar
26	Steel Guitar
27	Jazz Guitar
28	Clean Guitar
29	Muted Guitar
30	Overdriven Guitar
31	Distortion Guitar
32	Guitar Harmonics

BASS

33	Acoustic Bass
34	Finger Bass
35	Pick Bass
36	Fretless Bass
37	Slap Bass 1
38	Slap Bass 2
39	Synth Bass 1
40	Synth Bass 2

STRINGS

41	Violin
42	Viola
43	Celloi
44	Contrabass
45	Tremolo Strings
46	Pizzicato Strings
47	Orchestral Harp
48	Timpan

STRINGS ENSEMBLE

49	Strings Ensemble 1
50	Strings Ensemble 2
51	Synth Strings 1
52	Synth Strings 2
53	Choir Aahs
54	Voice Oohs
55	Synth Voice
56	Orchestra Hit

BRASS

57	Trumpet
58	Trombone
59	Tuba
60	Muted Trumpet
61	French Horn
62	Brass Section
63	Synth Brass 1
64	Synth Brass 2

REED

65	Soprano Sax
66	Alto Sax
67	Tenor Sax
68	Baritone Sax
69	Oboe
70	English Horn
71	Bassoon
72	Clarinet

PIPE

73	Piccolo
74	Flute
75	Recorder
76	Pan Flute
77	Blown Bottle
78	Shakuhachi
79	Whistle
80	Ocarina

LEAD

81	Lead1 (square)
82	Lead2 (sawtooth)
83	Lead3 (calliope)
84	Lead4 (chiff)
85	Lead5 (charang)
86	Lead6 (voice)
87	Lead7 (fifths)
88	Lead8 (bass & Lead)

PAD

89	Pad1 (newage)
90	Pad2 (warm)
91	Pad3 (Polysynth)
92	Pad4 (choir)
93	Pad5 (bowed)
94	Pad6(metallic)
95	Pad7 (halo)
96	Pad8 (sweep)

EFFECTS

97	FX1 (rain)
98	FX2 (soundtrack)
99	FX3 (crystal)
100	FX4 (atmosphere)
101	FX5 (brightness)
102	FX6 (goblins)
103	FX7 (echoes)
104	FX8 (sci-fi)

ETHNIC

105	Sitar
106	Banjo
107	Shamisen
108	Koto
109	Kalimba
110	Bagpipe
111	Fiddle
112	Shanai

PERCUSSIVE

113	Tinkle Bell
114	Agogo
115	Steel Drums
116	Wood Block
117	Taiko Drum
118	Melodic Tom
119	Synth Drum
120	Reverse Cymbal

SOUND EFFECTS

121	Guitar Fret Noise
122	Breath Noise
123	Seashore
124	Bird Tweet
125	Telephone Ring
126	Helicopter
127	Applause
128	Gunshot

No.	Name	Type	No.	Name	Type
1	Drum Intro	Loop	41	Mambo	Loop
2	Drum Main A	Loop	42	Latin Rock1	Loop
3	Drum Main B	Loop	43	Latin Pop2	Loop
4	Electronic&Funk	Loop	44	Guitar Bossa	Loop
5	Modern Pop	Loop	45	Country Blues	Loop
6	Fusion1	Loop	46	Rock	Loop
7	HipHop	Loop	47	Reggae1	Loop
8	Latin Jazz1	Loop	48	60's Rock	Loop
9	Funk1	Loop	49	Blues	Loop
10	Big Band1	Loop	50	World1	Loop
11	Funk2	Loop	51	World2	Loop
12	Pop Funk1	Loop	52	Latin	Loop
13	Fusion2	Loop	53	Bossa	Loop
14	Funk3	Loop	54	Samba2	Loop
15	Fusion3	Loop	55	3/4Pop	Loop
16	Funk4	Loop	56	Pop	Loop
17	Fusion4	Loop	57	Jazz2	Loop
18	Pop Funk2	Loop	58	Reggae2	Loop
19	R&B	Loop	59	Reggae3	Loop
20	Drum n'Bass1	Loop	60	Latin Rock2	Loop
21	Break Beat	Loop	61	Chorus Piano Tap1	Hit
22	Dance	Loop	62	Fifths Tap	Hit
23	Drum n'Bass2	Loop	63	Brightness Tap1	Hit
24	Latin Dance1	Loop	64	Atmosphere	Hit
25	Latin Dance2	Loop	65	Chorus Piano Tap2	Hit
26	Swing1	Loop	66	Bass Tap1	Tap
27	Latin Jazz2	Loop	67	Synth String Tap	Tap
28	Big Band2	Loop	68	Brightness Tap2	Tap
29	3/4 Jazz	Loop	69	Bass Tap2	Tap
30	Jazz1	Loop	70	Pad Tap1	Tap
31	Latin Jazz3	Loop	71	Vibraphone	Tap
32	Swing2	Loop	72	Bass Tap3	Tap
33	6/8Ballad	Loop	73	Rain Tap	Tap
34	Pop Ballad	Loop	74	Pizzicato Strings	Tap
35	Pop Bossa	Loop	75	Bass Tap4	Tap
36	16Beat Pop	Loop	76	Crystal	Tap
37	Pop Shuffle	Loop	77	Xylophone	Tap
38	Ballad	Loop	78	Bass Tap5	Tap
39	Samba1	Loop	79	Pad Tap2	Tap
40	Latin Pop1	Loop	80	Glockenspiel Tap	Tap

Pattern List

BEAT

No.	Name	Kit Bank	Beat	Tempo	Measure
1	Beat_1	0	4/4	100	4
2	Beat_2	0	4/4	100	4
3	Beat_3	0	4/4	100	4
4	Beat_4	0	4/4	100	4
5	Beat_5	0	4/4	100	4
6	Beat_6	0	4/4	100	4
7	Beat_7	0	4/4	100	4
8	Beat_8	0	4/4	100	4
9	Beat_9	0	4/4	100	4
10	Beat_10	0	4/4	100	4
11	Beat_11	0	4/4	100	4
12	Beat_12	0	4/4	100	4
13	Beat_13	0	4/4	100	4
14	Beat_14	0	4/4	100	4
15	Beat_15	0	4/4	100	4
16	Beat_16	0	4/4	100	4
17	Beat_17	0	4/4	100	4
18	Beat_18	0	4/4	100	4
19	Beat_19	0	4/4	100	4
20	Beat_20	0	4/4	100	4

RHYTHM

No.	Name	Kit Bank	Beat	Tempo	Measure
1	Funk1	0	4/4	110	4
2	Funk2	0	4/4	90	4
3	HipHop1	0	4/4	90	4
4	HipHop2	0	4/4	113	4
5	Jazz1	0	4/4	157	4
6	Jazz2	0	4/4	187	4
7	Latin1	0	4/4	190	4
8	Latin2	0	4/4	200	4
9	PopRock1	0	4/4	105	4
10	PopRock2	0	4/4	97	4
11	Rock	0	4/4	100	4
12	6/8Rock	0	6/8	125	4

PATTERN

No.	Name	Kit Bank	Beat	Tempo	Measure
1	Funk	17	4/4	120	4
2	HipHop	25	4/4	110	4
3	LatinJazz	40	4/4	130	8
4	6/8Ballad	8	6/8	96	4
5	Bossanova	17	4/4	82	8
6	R&B	25	4/4	86	4
7	3/4Jazz	40	3/4	120	10
8	Reggae	0	4/4	78	4
9	Rock	0	4/4	100	4
10	Fusion	0	4/4	103	4

NORMAL MODE

KIT

Parameter	Abbreviation	Value
Kit Number	NUM	1—40
Kit Volume	VOL	0—32
Reverb	REV	ON / OFF
EQ High	EQH	-12 -- +12
EQ Middle	EQM	-12 -- +12
EQ Low	EQL	-12 -- +12

SONG

Parameter	Abbreviation	Value
Song Number	NUM	1—80
Accomp Volume of Song	ACC	0—32
Drum Volume of Song	DRM	0—32

UTILITY

Parameter	Abbreviation	Value
Pad Sensitivity	SEN	1—16
Pad Threshold	THR	0—16
Crosstalk	CRO	1—16
Curve	CUR	1—6
Rim Sensitivity	R-S	1—16
Splash Sensitivity	S-S	1—9
Local on/off	LOC	ON/OFF
GM on/off	GM	ON/OFF

TEMPO

Parameter	Abbreviation	Value
TEMPO	BPM	30—280

VOICE

Parameter	Abbreviation	Value
Voice Number	NUM/H-C	1—385/1—7
Voice Volume	VOL	0—32
Voice Pan	PAN	-8 -- +8
Voice Pitch	PIT	-8 -- +8
Voice Reverb	REV	0—16
MIDI Note	MID	0—127
Pad Song Switch	P-S	ON / OFF
Pad Song Number	P-N	1—80

CLICK

Parameter	Abbreviation	Value
Signature	SIG	0–9/2, 0–9/4, 0–9/8, 0–9/16
Interval	INT	1–2, 3–8, 1–4, 1–8, 1-12, 1-16
Click Volume	VOL	0—32
Click Voice	VOC	1—5

RECORD

Parameter	Abbreviation	Value
Song Number	SNG	---/1—60
Kit	KIT	1—40
Tempo	BPM	30—280
Signature	SIG	1–9/2, 1–9/4, 1–9/8, 1–9/16
Interval	INT	1–2, 3–8, 1–4, 1–8, 1-12, 1-16
Drum Off	DRM	---/ON/OFF
Pre Count	PRC	ON/OFF

LEARNING MODE

BEAT

Parameter	Abbreviation	Value
Beat Type	BEA	1--20
Drum Volume	DRM	0--32

RHYTHEM

Parameter	Abbreviation	Value
Rhythm Type	RHM	1--12
Level	LEV	1--6
Drum Volume	VOL	0--32

PATTERN

Parameter	Abbreviation	Value
Pattern Type	PTN	1--10
Level	LEV	1--5
Accompany Volume	ACC	0--32
Drum Volume	DRM	0--32

MIDI Implementation Chart

Function		Transmitted	Recognized	Remarks
Basic	Default	10ch	1－16	
Channel	Changed	×	×	
	Default	×	×	
Mode	Messages	×	×	
	Altered	**********	**********	
Note		0—127	0－127	
Number	: True Voice	**********	0－127	
Velocity	Note On	○ 99H,V=1-127	○	
	Note Off	×（99H,V=0）	○	
after	Key's	×	×	
Touch	Ch's	×	×	
Pitch Bend		×	×	
Control	0	×	○	Bank Select
Change	1	×	○	Modulation
	5	×	○	Portamento Time
	6	×	○	Data Entry
	7	×	○	Volume
	10	×	○	Pan
	11	×	○	Expression
	64	×	○	Sustain Pedal
	65	×	○	Portamento On/Off
	66	×	○	Sostenuto Pedal
	67	×	○	Soft Pedal
	80	×	○	Reverb Program
	81	×	○	Chorus Program
	91	×	○	Reverb Level
	93	×	○	Chorus Level
	120	×	○	All Sound Off
	121	×	○	Reset All Controllers
	123	×	○	All Notes Off
Program		○	○	
Change	: True Number	×××××××	0-127	
System Exclusive		×	○	
System	: Song Position	×	×	
Common	: Song Select	×	×	
	: Tune	×	×	
System	: Clock	○	×	
Real Time	: Commands	○	×	Start And Stop Only
Aux	: Local On/off	×	×	
	: All Notes Off	×	×	
Messages	: Active Sensing	○	×	
	: Reset	×	×	